

IN THE CLAIMS

Please amend the claims as follows:

1-14. (Cancelled)

15. (Currently Amended) A radar unit, comprising:

an antenna;

an arbitrary waveform generator to issue (AWG) issuing an arbitrary ~~(periodic)~~ radar waveform signal at a given pulse repetition frequency [[PRF]], the arbitrary waveform generator ~~AWG unit~~ being adapted to adjust ~~for adjusting~~ the phase of the radar waveform signal as a function of a phase adjustment signal;

a transmit amplifier [[TX]] coupled to the antenna;

a receive unit [[RX]] coupled to the antenna to receive a Doppler spectrum;

a 2D filter for generating associate values of radar response and coordinate data;

a noise predictor ~~prediction means~~ coupled to the receiver to receive ~~for receiving~~ at least one prevalent radio frequency interference [[RFI]];

a demodulation and decoding bank comprising known information on the modulation and coding principle of the prevalent radio frequency interference [[RFI]] signal, the radio frequency interference [[RFI]] signal typically operating according to a predetermined refresh frequency at which redundant information is repeated ~~(50Hz)~~;

said noise predictor ~~prediction means~~ operative to receive, demodulate and decode the information content of the at least one radio frequency interference [[RFI]] signal, wherein:

the arbitrary wave generator is adapted to generate ~~for generating~~ pulse-compressed chirps, and wherein the arbitrary wave generator is synchronized with the at least one radio frequency interference signal, whereby,

the arbitrary wave generator is controlled to produce an overall radar pulse composed of at least a first segment and a second segment whose time/frequency rates may differ from one another,

whereby the overall radar pulses vary from pulse to pulse such that for the coinciding frequency of the at least one radio frequency interference [[RFI]] signal, the time between radar

pulses is an integer divisor of the periodicity of the at least one radio frequency interference [[RFI]] signal.

16. (Previously Presented) The radar unit according to claim 15, wherein the overall pulse composed of the first and second segment is formed so in relation to a previous radar pulse, that the frequency range is the same as the frequency range of the previous pulse and the duration of the overall pulse is the same as the duration of the previous pulse.

17. (Currently Amended) The radar unit according to claim 15, wherein radar pulses constitute linearly frequency modulated [[(FM)]] segments of differing time/frequency rates.

18. (Currently Amended) The radar unit according to claim 15, wherein the frequency spectrum is divided into a plurality of sub-channels, each sub-channel corresponding to a regulatory radio channel used for one radio or television information source, the radar unit comprising a noise ~~predictor prediction means~~ for each radio frequency interference [[RFI]] sub-channel overlapping with the radar range.

19. (Currently Amended) The radar unit according to claim 18, wherein the overall pulse is formed so that the composite transmit radar pulses varies from pulse to pulse such that for the coinciding frequency of each radio frequency interference [[RFI]] signal, the time between radar pulses is an integer divisor of the periodicity of each corresponding radio frequency interference [[RFI]] signal.

20. (Currently Amended) The radar unit according to claim 15, wherein radar pulses constitute linearly frequency modulated [[(FM)]] segments.

21. (Previously Presented) The radar unit according to claim 20, wherein the radar pulses are temporarily disjunct.

22. (Currently Amended) A method of adapting pulses transmitted from a radar unit, comprising ~~the steps of:~~

receiving and demodulating at least one prevalent radio frequency interference [[RFI]] signal;

sensing the periodicity of a component of the at least one prevalent radio frequency interference [[RFI]] signal having a given radio frequency interference [[RFI]] frequency coinciding with a frequency of the radar pulses;

wherein an arbitrary wave generator generates pulse-compressed chirps, wherein the arbitrary wave generator is controlled to produce an overall radar pulse composed of at least a first segment and a second segment whose time/frequency rates may differ from one another, and wherein the radar unit is to receive a Doppler spectrum, and wherein the arbitrary wave generator is synchronized with the at least one prevalent radio frequency interference signal,

whereby the overall radar pulses vary from pulse to pulse such that for the coinciding frequency of the at least one radio frequency interference [[RFI]] signal, the time between radar pulses is an integer divisor of the periodicity of the at least one radio frequency interference [[RFI]] signal.

23. (Previously Presented) The method according to claim 22, wherein the overall pulse composed of the first and second segment is formed so in relation to a previous radar pulse, that the frequency range is the same as the frequency range of the previous pulse and the duration of the overall pulse is the same as the duration of the previous pulse.

24. (Currently Amended) The method according to claim 22, wherein radar pulses constitute linearly frequency modulated [[(FM)]] segments of differing time/frequency rates.

25. (Currently Amended) The method according to claim 22, wherein the frequency spectrum is divided into a plurality of sub-channels, each sub-channel corresponding to a regulatory radio channel used for one radio or television information source, the radar unit comprising a noise ~~predictor prediction means~~ predictor for each radio frequency interference [[RFI]] sub-channel overlapping with the radar range.

26. (Currently Amended) The method according to claim 22, wherein the overall pulse is formed so that the composite transmit radar pulses varies from pulse to pulse such that for the coinciding frequency of each radio frequency interference [[RFI]] signal, the time between radar pulses is an integer divisor of the periodicity of each corresponding radio frequency interference [[RFI]] signal.

27. (Currently Amended) The method according to claim 22, wherein radar pulses constitute linearly frequency modulated [[(FM)]] segments.

28. (Currently Amended) The method according to claim 22, wherein the periodicity of the radio frequency interference [[RFI]] signal corresponds to the frame periodicity or line periodicity of a television signal.